

**ENGINEERING EVALUATION for PUBLIC NOTICE
ALBERTSON'S INC.; PLANT 14405
APPLICATION 5324**

BACKGROUND

Albertson's Inc. has applied for a permit for a genset (S-1) with a natural gas-fueled spark-ignited engine used to power a generator. The engine is a General Motors Vortec 4.3 Liter, rich-burn 4-cycle with natural aspiration and it is part of a Kohler Power Systems Model 30RZG Genset. A Johnson Matthey 3-way catalyst will be added to abate the engine. Since this genset was not on site prior to September 1, 2001, S-1 is subject to New Source Review requirements (BACT, cumulative increase, offsets), public notification requirements triggered by proximity to a K-12 school and toxic review. The genset is intended to operate during utility electrical outages and occasionally for reliability-related activities.

In accordance with District Regulation 9-8 and the Risk Management Policy, the operation of the S-1 genset will be limited to the lesser of no more than 100 hr/yr for reliability-related operation (maintenance and testing) and a reliability-related operating allowance which results in an incremental cancer risk of no more than 1 in a million. The operation of S-1 to provide power during emergencies will not be limited.

EMISSIONS

The genset permitted under this application is considered a new source. Consequently, there is a cumulative emission increase associated with this permit application. The applicant has elected to add a Johnson Matthey 3-way catalyst to the genset engine so that emissions of NO_x, CO, and HC are each emitted into the atmosphere at a rate that does not trigger Best Available Control Technology (BACT). As discussed below, the application of the District Risk Management Policy is less restrictive on the engine operation than the 100 hours per year reliability-related operation allowance. Since BACT is triggered at 10 pounds on any calendar day (24 hours), emissions are calculated assuming that NO_x, CO, and HC are each emitted at that rate for 100 hours per year operation.

NO_x emissions = $\frac{10 \text{ pounds}}{24 \text{ hours}} * 100 \text{ hours} = 42 \text{ lbs/yr} = 0.021 \text{ tpy}$

CO emissions = ditto

HC emissions = ditto

Emissions of sulfur dioxide and PM₁₀ are calculated using the maximum natural gas firing rate (provided by Kohler

Power Systems) times the energy content of natural gas (1015 Btu/cubic foot) times 100 hours per year operation times the SO₂ and PM₁₀ emission factors from Table 3.2-3 of Chapter 3.2, Natural Gas-fired Reciprocating Engines, of Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources. The emission factor for PM₁₀ is the addition of the PM₁₀ filterable plus PM₁₀ condensable. (This US EPA publication is commonly referred to as "AP-42" and it can be viewed online at <http://www.epa.gov/ttn/chief/ap42/index.html>.) Emissions for SO₂ and PM₁₀ are calculated using an Excel spreadsheet that is attached to show the results.

The cumulative increase is summarized below:

NOX = 42 lb/yr =	0.021 tpy
CO = 42 lb/yr =	0.021 tpy
HC = 42 lb/yr =	0.021 tpy
PM ₁₀ = 1 lb/yr =	0.001 tpy
SO ₂ = 0.03 lb/yr =	0.000 tpy

TOXIC RISK SCREENING ANALYSIS

As discussed on page 1 (Background), S-1 is subject to the District Risk Management Policy. Emissions of toxic air contaminants (TACs) are calculated using emission factors from Table 3.2-3 in AP-42. Using our standard protocol, I have assumed that the compounds with a "less than" emission factor are emitted at 50% of the "less than" emission factor.

Emissions of TACs are calculated using the Excel spreadsheet mentioned above and shown on the attached spreadsheet.

The calculated annual emission for each TAC is below its toxic trigger. In accordance with the District Risk Management Policy, the proposed project complies with the Risk Management Policy and no further risk analysis is required.

The TAC emission factors have not been reduced in this evaluation due to the use of an oxidizing catalyst. That refinement was not necessary since emission of each TAC is already less than its TAC trigger.

STATEMENT OF COMPLIANCE

An emergency standby engine is not subject to NO_x and CO standards in Regulation 9, Rule 8 but is subject to Sections 330 and 530 limiting reliability-related activities and requiring a non-resettable totalizing fuel or run-time meter

plus a monthly log of usage. These limits are included as permit conditions. S-1 is subject to the SO₂ limitations of 9-1-301 (ground-level concentration) and 9-1-302 (300 ppm_{dv} in exhaust). Compliance with both of these requirements is very likely since the applicant will use utility-supplied natural gas. Like all sources, S-1 is subject to Regulation 6 ("Particulate and Visible Emissions"). This engine is not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to be in compliance with Regulation 6 pending a regular inspection.

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 because it is evaluated in accordance with Chapter 2.3 of the Permit Handbook and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors and therefore is not discretionary as defined by CEQA.

The project is less than 1000 feet from the nearest school and is therefore subject to the public notification requirements of Regulation 2-1-412. Attached is the public notice that was prepared and distributed for this permit application. A summary of comments and responses will be added to this evaluation prior to permit issuance.

As discussed on page 1 (Background), S-1 complies with the District Risk Management Policy.

Prevention of Significant Deterioration (PSD), Standards Of Performance For New Stationary Sources (NSPS) (40 CFR Parts 60) and National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Parts 61) are not applicable to this source.

BACT and Offsets

Total facility emissions, which only include this project, will be less than 15 tons per year of POC and NO_x. Therefore, offsets are not required per Offset Requirements (2-2-302).

PERMIT CONDITIONS

For: S-1 Standby Generator Set: Kohler w/GM 4.3 L Vortec engine; 75 bhp, natural gas fueled, abated by A-1, 3-Way Catalyst, Johnson Matthey Bandito CX-2-3

1. Hours of Operation: The owner/operator shall operate the emergency standby engine only to mitigate emergency conditions or for reliability-related activities. Operating while mitigating emergency conditions is unlimited. Operating for reliability-related activities is limited to 100 hours per any calendar year. [Basis: Regulation 9-8-330]

"Emergency Conditions" is defined as any of the following:

- a. Loss of regular natural gas supply.
- b. Failure of regular electric power supply.
- c. Flood mitigation.
- d. Sewage overflow mitigation.
- e. Fire.
- f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.

[Basis: Regulation 9-8-231]

"Reliability-related activities" is defined as any of the following:

- a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
- b. Operation of an emergency standby engine during maintenance of a primary motor.

[Basis: Regulation 9-8-232]

2. The owner/operator shall equip the emergency standby engine(s) with either:

- a. A non-resettable totalizing meter that measures and records the hours of operation for the engine.
- b. A non-resettable fuel usage meter.

[Basis: Regulation 9-8-530]

3. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 2 years and shall make the log available for District inspection upon request:

- a. Hours of operation (total).
- b. Hours of operation (emergency).
- c. For each emergency, the nature of the emergency condition.

[Basis: Regulations 9-8-530 and 1-441]

4. The owner/operator shall operate S-1 such that the emission rate for each regulated air pollutant is less than 10/24 pound per hour (approximately 0.4 pounds per hour).
[Basis: Cumulative Increase, BACT]

RECOMMENDATION

Issue Authority to Construct (Permit to Operate) to Albertson's Inc. for:

**S-1 Standby Generator Set: Kohler w/GM 4.3 L Vortec engine;
75 bhp, natural gas fueled, abated by A-1, 3-Way
Catalyst, Johnson Matthey Bandito CX-2-3**

By:

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